

REMARKS

Reconsideration of this application, as amended, is respectfully requested.

Claims 1-23, are pending. Claims 1-23 were rejected.

Claims 1-3, and 5-23 have been amended. Claim 4 has been canceled. No claims have been added. Support for the amendments is found in the specification, the drawings, and in the claims as originally filed. Applicants submit that the amendments do not add new matter.

Applicants reserve all rights with respect to the applicability of the Doctrine of Equivalents.

Applicants have replaced the current Abstract with new Abstract. The new Abstract does not exceed 150 words in length.

Therefore, applicants respectfully submit that the Examiner's objection to the Abstract has been overcome.

Applicants submit herewith the replacement sheets of amended Figures 4 and 5, as the Examiner requested.

The Figure 4 has been amended to include the reference number 47 according to the specification, page 14, line 5.

The Figure 5 has been amended in light of the Examiner's objection.

Therefore, applicants respectfully submit that the Examiner's objection to the drawings has been overcome.

The portion of the specification on page 14, on lines 13-17 has been amended to replace reference number 40 with reference number 14.

Therefore, applicants respectfully submit that the Examiner's objection to the specification has been overcome.

Claims 1-3, 7, and 8 have been rejected under 35 U.S.C § 103(a) as being unpatentable over Yasumoto et al., U.S Patent No. 4,612,083 ("Yasumoto") in view of Tanaka et al., U.S. Patent No. 5,250,469 ("Tanaka").

Applicant have amended claim 1 to indicate that " the laser treatment is performed by means of a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation such that all the contact pairs or those combined into groups are exposed to laser radiation for the contacting."

The Examiner acknowledged that a combination of Yasumoto and Tanaka "fail to teach the laser treatment performed by means of a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation." (Office Action, p. 7, 12/23/08).

Therefore, applicants respectfully submit that claim 1, as amended is not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka.

Given that claims 2-3, and 7-8 depend from amended claim 1, and additional limitations, applicants respectfully submit that claims 2-3, and 7-8 are not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka.

Claims 4 and 6 have been rejected under 35 U.S.C § 103(a) as being unpatentable over Yasumoto as modified by Tanaka and further in view of Nakata et al., U.S. Patent No. 5,617,441 ("Nakata").

Applicants have canceled claim 4.

The Examiner acknowledged that a combination of Yasumoto and Tanaka “fail to teach the laser treatment performed by means of a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation.” (Office Action, p. 7, 12/23/08).

Nakata, in contrast, discloses a multi beam irradiating source (col. 4, lines 54-65, Figure 2). More specifically, Nakata discloses the following:

ON/OFF of each of the laser diodes 1, which are pulse-driven, is independently repeated, respectively. Therefore, it is possible to change gradation by purposely changing the emission intense of the laser diode which is ON. Moreover, since the characteristics of the laser beams B have been aligned through the above-described adjustments, it is possible to use one optical system in common for the plurality of light emitting devices and to provide the light source unit a compatibility with respect to the optical system. For example, the lens 13 (see FIG. 6) provided in the downstream side of the light source unit 10 can be used in common for five beams. As a result, the cost decreases and the position adjustments and maintenance are facilitated.

(Nakata, col. 8, lines 31-44)(emphasis added)

Thus, Nakata discloses switching on/off of a plurality of laser diodes independently. In contrast, amended claim 1 refers to performing the laser treatment by means of a composite arrangement of a plurality of diode lasers such that all the contact pairs of the contact metallizations or those contact pairs of the contact metallizations combined into groups are exposed to laser radiation for contacting of the contact metallizations.

Moreover, Nakata does not teach or suggest using a plurality of diode lasers for performing a bond between two wafer-like components composite arrangements, as recited in amended claim 1. Instead, the "multi-beam irradiating light source unit" of Nakata is "for use in a laser beam printer, a copying apparatus, a facsimile apparatus, a photo type setting apparatus, a bar code reading apparatus" (col. 1, lines 9-13). Nakata

fails to disclose a composite arrangement of a plurality of diode lasers which are activated individually or in groups to emit laser radiation such that all the contact pairs of the contact metallizations or those contact pairs of the contact metallizations combined into groups are exposed to laser radiation, as recited in amended claim 1.

Furthermore, even if Yasumoto, Tanaka, and Nakata were combined, such a combination would still lack composite arrangement of a plurality of diode lasers, which are activated individually or in groups to emit laser radiation, such that all the contact pairs of the contact metallizations or those contact pairs of the contact metallizations combined into groups are exposed to laser radiation, as recited in amended claim 1.

Therefore, applicants respectfully submit that claim 1, as amended, is not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, and further in view of Nakata.

Given that claim 6 depends from amended claim 1 and adds additional limitations, applicants respectfully submit claim 6 is not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, and further in view of Nakata.

Claim 5 has been rejected under 35 U.S.C § 103(a) as being unpatentable over Yasumoto as modified by Tanaka and further in view of Nakata and Lutz, U.S. Patent No. 6,762,072 (“Lutz”).

Lutz, in contrast, discloses a Si wafer-cap bonding method using local laser energy. More specifically, Lutz discloses positioning the bonding surfaces with respect to the laser beam (col. 5, lines 14-41). Lutz fails to disclose, teach, or suggest a composite arrangement of a plurality of diode lasers, which are activated individually or in groups to emit laser radiation, such that all the contact pairs of the contact metallizations or those

contact pairs of the contact metallizations combined into groups are exposed to laser radiation, as recited in amended claim 1.

Furthermore, even if Yasumoto, Tanaka, and Lutz were combined, such a combination would still lack a composite arrangement of a plurality of diode lasers, which are activated individually or in groups to emit laser radiation, such that all the contact pairs of the contact metallizations or those contact pairs of the contact metallizations combined into groups are exposed to laser radiation, as recited in amended claim 1.

Given that claim 5 depends from amended claim 1 and adds additional limitations, applicants respectfully submit claim 5 is not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, and further in view of Lutz.

Claims 9, 15, and 16 have been rejected under 35 U.S.C § 103(a) as being unpatentable over Yasumoto as modified by Tanaka and further in view of Lutz.

Amended claim 9 includes a receiving frame for supporting and holding a first component composite arrangement on a transparent panel arranged in the receiving frame, a diode laser composite arrangement arranged inside the receiving frame and separated from the first component composite arrangement by the transparent panel, a holding clamp for receiving a second component composite arrangement such that contact surfaces of the component composite arrangements provided with contact metallizations are arranged opposite one another.

The Examiner stated that a combination of Yasumoto and Tanaka fails to disclose “a device for alternately contacting two wafer-like component composite arrangements consisting of a plurality of cohesively designed identical components, having a receiving

frame for supporting and holding the first component composite arrangement on a transparent panel arranged in the receiving frame, having a diode laser composite arrangement arranged inside the receiving frame and separated from the component composite arrangement by the transparent panel, having a holding clamp for receiving the second component composite arrangement such that contact surfaces of the component composite arrangements provided with contact metallizations are arranged opposite one another.” (Office Action, p. 10, 12/23/08).

Lutz, in contrast, discloses the following:

A method for creating a bond between a wafer and a cap, comprising: providing the wafer, at least one microelectromechanical system arranged on the wafer and a bond frame arranged on the wafer, the bond frame arranged on an outer perimeter of the wafer with respect to the at least one microelectromechanical system, the bond frame having a high absorption coefficient with respect to a wavelength of a laser beam; providing the cap arranged on top of the wafer, the cap having a low absorption coefficient with respect to the wavelength of the laser beam; and projecting the laser beam through the cap, the laser beam impinging on the bond frame, the laser beam heating the bond frame, wherein a portion of the cap adjacent to the bond frame is melted.

(Lutz, col. 8, lines 35-52)(emphasis added)

Thus, Lutz discloses a wafer on a bonding frame, and a transparent cap. In contrast, claim 1 refers to a first component composite arrangement on a transparent panel arranged in the receiving frame, a diode laser composite arrangement arranged inside the receiving frame and separated from the first component composite arrangement by the transparent panel; and a holding clamp for receiving a second component composite arrangement, such that contact surfaces of the first and the second component composite arrangements provided with contact metallizations are arranged opposite one another. Lutz does not disclose a first component composite arrangement on a transparent panel and a diode laser composite arrangement separated from the first component

composite arrangement by the transparent panel, as recited in amended claim 9.

Moreover, Lutz fails to disclose a holding clamp for receiving a second component composite arrangement, such that contact surfaces of the first and the second component composite arrangements provided with contact metallizations are arranged opposite one another, as recited in amended claim 9.

Furthermore, even if Yasumoto, Tanaka, and Lutz were combined, such a combination would still lack a first component composite arrangement on a transparent panel arranged in the receiving frame, a diode laser composite arrangement arranged inside the receiving frame and separated from the first component composite arrangement by the transparent panel; and a holding clamp for receiving a second component composite arrangement, such that contact surfaces of the first and the second component composite arrangements provided with contact metallizations are arranged opposite one another, as recited in amended claim 9.

Therefore, applicants respectfully submit that claim 9, as amended, is not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, and further in view of Lutz.

Given that claims 15 and 16 depend from amended claim 9, and add additional limitations, applicants respectfully submit claims 15 and 16 are not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, and further in view of Lutz.

Claims 10-14 have been rejected under 35 U.S.C § 103(a) as being unpatentable over Yasumoto as modified by Tanaka/Lutz and further in view of Nakata.

Nakata, in contrast, discloses a multi beam irradiating source. Nakata fails to disclose a first component composite arrangement on a transparent panel arranged in the receiving frame, a diode laser composite arrangement arranged inside the receiving frame

and separated from the first component composite arrangement by the transparent panel;
and a holding clamp for receiving a second component composite arrangement, such that
contact surfaces of the first and the second component composite arrangements provided
with contact metallizations are arranged opposite one another, as recited in amended claim 9.

Given that claims 10-14 depend from amended claim 9, and add additional limitations, applicants respectfully submit claims 10-14 are not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, in view of Lutz, and further in view of Nakata.

Claims 17, 18, and 20 have been rejected under 35 U.S.C § 103(a) as being unpatentable over Yasumoto as modified by Tanaka and further in view of Lutz and Farnworth et al., U.S. Patent Publication No. 2003/0025188 (“Farnworth”).

Amended claim 17 includes “contact metallizations of the first component composite arrangement and the second component composite arrangement are each designed in the form of a ring, forming, after contacting, a closed sensor receptacle space.”

Farnworth, in contrast, discloses a stackable semiconductor package having conductive layer and insulating layer.

It is respectfully submitted that none of the references cited by the Examiner disclose contact metallizations of the first component composite arrangement and the second component composite arrangement are each designed in the form of a ring, forming, after contacting, a closed sensor receptacle space, as recited in amended claim 17.

Furthermore, even if Yasumoto, Tanaka, Lutz, and Farnworth were combined, such a combination would still lack contact metallizations of the first component composite arrangement and the second component composite arrangement are each designed in the form of a ring, forming, after contacting, a closed sensor receptacle space, as recited in amended claim 17.

Therefore, applicants respectfully submit that claim 17, as amended, is not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, in view of Lutz, and further in view of Farnworth.

Given that claims 18 and 20 depend from amended claim 17, and add additional limitations, applicants respectfully submit claims 18 and 20 are not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, in view of Lutz, and further in view of Farnworth.

Claim 19 has been rejected under 35 U.S.C § 103(a) as being unpatentable over Yasumoto as modified by Tanaka/Lutz/Farnworth and further in view of Takezawa et al., U.S. Patent Publication No. 2003/0207073 (“Takezawa”).

Takezawa, in contrast, discloses mounting structure for an electronic component.

Furthermore, even if Yasumoto, Tanaka, Lutz, Farnworth, and Takezawa were combined, such a combination would still lack contact metallizations of the first component composite arrangement and the second component composite arrangement are each designed in the form of a ring, forming, after contacting, a closed sensor receptacle space, as recited in amended claim 17.

Given that claim 19 depends from amended claim 17, and add additional limitations, applicants respectfully submit claim 19 is not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, in view of Lutz, and further in view of Farnworth, and further in view of Takezawa.

Claims 21-22 have been rejected under 35 U.S.C § 103(a) as being unpatentable over Yasumoto as modified by Tanaka/Lutz/Farnworth and further in view of Burberry et al., U.S. Patent No. 5,858,607 (“Burberry”).

Burberry, in contrast, discloses a laser-induced material transfer digital lithographic printing plates.

Furthermore, even if Yasumoto, Tanaka, Lutz, Farnworth, and Burberry were combined, such a combination would still lack contact metallizations of the first component composite arrangement and the second component composite arrangement are each designed in the form of a ring, forming, after contacting, a closed sensor receptacle space, as recited in amended claim 17.

Given that claims 21-22 depend from amended claim 17, and add additional limitations, applicants respectfully submit claims 21-22 are not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, in view of Lutz, and further in view of Farnworth, and further in view of Burberry.

Claim 23 has been rejected under 35 U.S.C § 103(a) as being unpatentable over Yasumoto as modified by Tanaka/Lutz/Farnworth and further in view of Horning et al., U.S. Patent Publication No. 2004/0180464 (“Horning”).

Horning, in contrast, discloses a method and system for buried electrical feedthroughs in a glass-silicon MEMs process.

Furthermore, even if Yasumoto, Tanaka, Lutz, Farnworth, and Horning were combined, such a combination would still lack contact metallizations of the first component composite arrangement and the second component composite arrangement are each designed in the form of a ring, forming, after contacting, a closed sensor receptacle space, as recited in amended claim 17.

Given that claim 23 depends from amended claim 17, and add additional limitations, applicants respectfully submit claim 23 is not obvious under 35 U.S.C § 103(a) over Yasumoto in view of Tanaka, in view of Lutz, and further in view of Farnworth, and further in view of Horning.

It is respectfully submitted that in view of the amendments and arguments set forth herein, the applicable rejections and objections have been overcome. Please charge any shortages and credit any overcharges to our Deposit Account No. 02-2666.

Respectfully submitted,

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